CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 94-148

CEASE AND DESIST ORDER Requiring:

THE DOW CHEMICAL COMPANY
WESTERN DIVISION, PITTSBURG PLANT
PITTSBURG, CONTRA COSTA COUNTY

to Cease and Desist from Discharging or Threatening to Discharge Waste in Violation of Requirements Contained in Waste Discharge Requirements (NPDES Permit No. CA0004910), Order No. 94-147.

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. The Dow Chemical Company, Western Division (hereinafter called the discharger), operates the Pittsburg Plant, a chemical manufacturing facility, in Pittsburg, Contra Costa County.

2. On October 19, 1994, the Board adopted waste discharge requirements, Order No. 94-147, for the discharger regulating the discharge of wastewater to New York Slough. This Cease and Desist Order is issued to enforce the threatened violation of effluent limits for copper and nickel specified in Order No. 94-147, for Waste 003 as detailed in the following findings. Waste 003 consists of the effluent from the groundwater treatment plant, the primary wastewater source to which is extracted groundwater from remediation activities on the discharger's facility.

3. Prior to adoption of Order No. 94-147, the discharger was regulated by the NPDES Permit contained in Order No. 89-093, as amended by Order Nos. 90-151 and 91-090. Order No. 89-093 specifies an effluent limit for nickel of 71 μg/l for Waste 003. Order No. 91-090 amended the permit to include an interim limit and compliance time schedule for nickel when unexpectedly high levels were discovered. The compliance deadline specified is January 1, 1993.

4. Pursuant requirements of Order No. 91-090, the discharger initiated studies to develop the necessary treatment for nickel but was unable to fully develop a technology in time to meet the deadline. The discharger reported that the primary cause for the failure is that the nickel is complexed with humic and fulvic acids which makes conventional metals removal technologies (ex. ion exchange, precipitation) ineffective. In response to this problem, the discharger ceased discharge of Waste 003 on January 1, 1993. The discharger resumed discharge on December 1, 1994, to comply with groundwater remediation objectives.

5. The effluent limit specified in Order No. 94-147 is more stringent than the 71 µg/l limit specified in the previous permit. This tightening of the limit resulted from factoring a background concentration for nickel in the receiving water in the derivation of the effluent limit from the Basin Plan objective. This was done to more fully protect beneficial uses.

6. Order No. 89-093 specifies an effluent limit copper in Waste 003 of 200 µg/l. The limit for copper specified in Order No. 94-147 is more stringent. It is based on the Board staff report entitled "Revised Report on Proposed Amendment to Establish a Site Specific Objective for Copper for San Francisco Bay," dated September 25, 1992.

7. Order No. 94-147 states in part:

" The discharge of Waste 003 containing constituents in excess of the following limits is prohibited:

Constituent	Units	Monthly Average	Daily Average
Copper	µg/l	--	37
...			
Nickel	µg/l	--	65

... "

8. Self-Monitoring data submitted by the discharger for Waste 003 indicate that on December 31, 1993, the discharger started violating the nickel effluent limit of 71 µg/l specified in Order No. 89-093. Since December 1993, the concentrations in Waste 003 range from 79 µg/l to 330 µg/l. These data show that the discharger is in violation of the nickel effluent limit specified in both Order Nos. 89-093 and 94-147, and will continue to be in violation until nickel treatment is installed or the nature of the groundwater extracted changes.

9. The Board finds that the discharger's efforts thus far to solve the nickel problem have been reasonable. However, additional effort is necessary to reduce the concentration of nickel so that beneficial uses of the receiving water are protected.

10. Self-Monitoring data submitted by the discharger for Waste 003 show discharge concentrations for copper from 30 to 44 µg/l for the past eight months, and a maximum of 55 µg/l for the past three years. Extraction and monitoring well data submitted by the discharger indicate that as groundwater from deeper zones are added to the system, the treatment plant discharge concentrations may increase above past discharge concentrations. These data show that the discharger is threatening to violate the effluent limit for copper specified in Order No. 94-147.

11. This Cease and Desist Order is intended to be issued in conjunction with the issuance of Order No. 94-147, to implement and enforce the revised effluent limitation for nickel and copper. This Order specifies tasks and a time schedule for

the discharger to achieve compliance with the limitation, through development of waste stream treatment technology. This Order requires the discharger to evaluate groundwater reuse options consistent with the Board's position stated in Resolution No. 88-160 on the disposal of extracted groundwater from groundwater cleanup projects. This Order requires immediate compliance with a 1 mg/l interim limit for nickel and a 0.2 mg/l interim limit for copper. The nickel interim limit is based on the USEPA drinking water limit to protect the municipal supply beneficial use. The copper interim limit is based on the limit established in Order No. 89-093. The specified time schedule is based on a reasonable projection of the time required for the discharger to implement all phases of their final groundwater remediation plan with concurrent development and bench scale testing of treatment technology options, to conduct pilot scale testing and perform detailed cost/effectiveness evaluation of the most promising technologies, and finally to design and construct the necessary treatment system.

12. Section 13301 of the California Water Code authorizes the Regional Board to issue a Cease and Desist Order when it finds that a waste discharge is taking place or threatening to take place in violation of the Board's prescribed requirements.

13. This enforcement action is being taken for the protection of the environment and, as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with Section 15321 of the Resources Agency Guidelines.

14. The discharger and interested persons have been notified of the Board's intent to adopt this enforcement order, and have been provided with the opportunity for a public hearing and the opportunity to submit their views and recommendations. The Board, in a public meeting, heard and considered all comments pertaining to this matter.

IT IS HEREBY ORDERED that, in accordance with Section 13301 of the California Water Code, the discharger shall cease and desist from discharging waste in violation of Order No. 94-147.

1. The discharger shall comply with the following tasks and time schedule to achieve compliance with this order.

   a. Immediately upon adoption of this Order, comply with the following interim effluent limitations for Waste 003 as discharged:

Constituent	Units	Daily Average
Copper	µg/l	200
Nickel	µg/l	1,000

   b. Submit a report that 1) summarizes information currently available on copper treatment technologies and their effectivenes on Waste 003, and 2) describes the strategy for investigation and development of copper treatment and control

technologies, including groundwater reuse options, to achieve compliance with this Order.

Compliance date: December 1, 1994

c. Continue with ongoing studies for development of nickel treatment technology, and evaluation of reuse options for Waste 003.

d. Submit quarterly progress reports summarizing the work accomplished, work underway, preliminary results of treatability tests as appropriate, problems encountered and foreseen which may affect compliance with this Order, and discuss measures for resolution of such problems.
Compliance date: on the 15th day following each calendar quarter

e. Submit a final report acceptable to the Executive Officer on the work to develop copper and nickel treatment technology, and groundwater reuse options for Waste 003. The report shall describe the final nature of the groundwater waste stream (ex. flow and contaminant content), all treatment options evaluated and the reason(s) for elimination of an option from further consideration (if appropriate), and the treatment and reuse options selected for final cost and effectiveness analysis.
Compliance date: January 1, 1998

f. Begin construction of treatment units and/or implementation of measures to reduce copper and nickel in Waste 003. The status report required by Task 1.c above shall include a statement of compliance with this task.
Compliance date: July 1, 1998

g. Achieve full compliance with the 65 μg/l limit for nickel, and the 37 μg/l limit for copper in Waste 003 specified in Effluent Limitation B.4 of Order No. 94-147.
Compliance date: September 1, 1999

2. If, in the opinion of the Executive Officer, the discharger fails to comply with the provisions of this order, the Executive Officer is directed to request the Attorney General to take an enforcement action against the discharger, in accordance with Sections 13331, 13350, 13385, and 13386 of the California Water Code. This would include an injunction and civil monetary penalties, if appropriate.

I, Steven R. Ritchie, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 19, 1994.

STEVEN R. RITCHIE
Executive Officer